

Docket No.: 2336-235

Application No: 10/754,578

## ABSTRACT

Disclosed herein is an FBAR based duplexer device and a manufacturing method thereof, which can achieve miniaturization, and reduction of a manufacturing cost and enhancement of a yield due to a simplified process. According to the present invention, first, a plurality of FBAR chips are prepared. Each of the FBAR chips ~~comprises~~ includes a substrate, air gaps and piezoelectric layer unit, which are successively arranged, a plurality of electrode pads electrically connected to the piezoelectric layer unit, and bump balls formed on the electrode pads in a one to one ratio. Then, a duplexer substrate having a duplexing circuit is prepared, and a plurality of the FBAR chips come into contact with the duplexer substrate. In this state, they are reversed so that the substrates of the FBAR chips face upward, and the bump balls are bonded to the duplexer substrate. After that, protective structures are formed by the use of a film, so as to be positioned on side surfaces as well as upper surface of the respective FBAR chips, and finally, a molding portion is formed so as to cover the protective structures.

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